RESOLUTION NO. 18
SERIES OF 2013

INTRODUCED BY: SCOTT ROSWELL
SECONDED BY: KLASINA VANDERWERF

A RESOLUTION
OF THE CITY COUNCIL
OF THE CITY OF CHERRY HILLS VILLAGE
UPDATING THE CONSTRUCTION AND EXCAVATION STANDARDS FOR WORK IN PUBLIC RIGHTS-OF-WAY

WHEREAS, the City of Cherry Hills Village is a home rule municipal corporation organized in accordance with Article XX of the Colorado Constitution; and

WHEREAS, Chapter 11, Article II of the Cherry Hills Village Municipal Code establishes the standards and procedures for the placement of facilities, construction, excavation, encroachments, and work activities within, under or upon any public right-of-way; and

WHEREAS, Sections 11-2-20 and 11-2-220 of the Municipal Code provide for the adoption by resolution and amendment of the document entitled "Construction, Excavation Standard for Work in Public Rights-of-Way" ("Construction and Excavation Standards"); and

WHEREAS, the Construction and Excavation Standards establish how work will be performed within the public rights-of-way and how repairs will be made once construction is complete; and

WHEREAS, changes to the Construction and Excavation Standards are required to impose stricter rules in order to maintain the quality of the surface and sub-surface condition of the City's streets; and

WHEREAS, the changes will give the City the ability to better manage the impact on its streets following utility and construction projects, and the impact on its streets from private construction work; and

WHEREAS, consistent with the objectives stated in Section 11-2-10, amending the Construction and Excavation Standards will help protect the City's infrastructure investment by establishing appropriate standards for the use of the public rights-of-way.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF CHERRY HILLS VILLAGE:

Section 1. The foregoing recitals are adopted and incorporated herein as findings of the City Council.

Section 2. The attached updated "Construction and Excavation Standards for Work in Public Right-of-Way" is hereby adopted by the City Council, copies of which shall be made available to the public on the City's website and at the City of Cherry Hills Village Center.

Section 3. This Resolution shall be effective immediately.

Introduced, passed and adopted at the
regular meeting of the City Council this 5th day
of November, 2013, by a vote of 6 yes and 0 no.

(SEAL)

Douglas M. Tisdale, Mayor

ATTEST:

Laura Smith, City Clerk

APPROVED AS TO FORM:

Linda Michow, City Attorney

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Construction and Excavation Standards for Work in Public Rights-of-Way
Updated November-2013

The purpose of these Construction and Excavation Standards (Standards) is to establish rules and guidelines governing occupation, excavations and restorations within the public Rights-of-Way of the City of Cherry Hills Village, Colorado. The intent of the Standards is to preserve and extend the service life of the public infrastructure and to prevent pavement failures and settlement resulting from construction and excavations. The City's objective is to ensure the integrity of its street infrastructure, provide for public safety, and minimize the inconvenience to the traveling public. These Standards are necessary for the benefit, safety and general welfare of the public.

The City of Cherry Hills Village acknowledges the need and obligation to accommodate utilities in the public Rights-of-Way. It is expected that utilities and private contractors understand the primary purpose of public roadways and trails is to provide for the safe and efficient travel of the public. This purpose has precedence over any secondary use of the Right-of-Way. By creating these Standards the City has put in place a comprehensive permit process to regulate excavations and occupation of the pubic Right-of-Way by public utilities, private contractors or any person. Prompt restoration of the public Right-of-Way is an essential element of these Standards and will be strictly enforced.

In an effort to minimize disruption caused by construction in the public Right-of-Way, all work within the Right-of -Way shall be coordinated through the Public Works Department. It is the responsibility of the permittee to ensure that all other additional permits are obtained prior to construction. This includes possible building permits and permits issued by utilities not affiliated with the City. Even in cases where no stormwater permit is required the permittee will be required to meet all applicable rules and regulations to prevent any prohibited discharges from entering the stormwater system.

These Standards have been adopted by the Cherry Hills Village City Council and are incorporated by reference into the City's Municipal Code. Please contact the Public Works Department at 303-783-2744 if you have questions or need clarification.

Construction and Excavation Standards and for Work in Public Rights-of-Way
2013

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Construction and Excavation Standards and for Work in Public Rights-of-Way 2013

I. General

A. Purpose. In accordance with and supplemental to Chapter 11, Article II of the City of Cherry Hills Village Municipal Code ("Code"), these standards establish the minimum design and technical criteria for the placement, maintenance and construction of all work in the public right-of-way. All proposed work submitted for approval under Chapter 11, Article II of the Code shall conform to the criteria set forth herein.
B. Applicability. These standards apply to all work in the public right-of-way as required pursuant to Section 11-2-40 of the Code.
C. Definitions. Words and phrases used herein shall have the meanings set forth in Section 11-2-20 of the Code.

II. Permit Fees

Fee Structure - Public right-of-way permit fees are divided into four separate categories: management fees, inspection fees, pavement restoration fees, and other fees. All permits are subject to a management/inspection fee. Landscape work, driveway installations and occupation permits within the City's right-of-ways may be issued at a reduced rate. If the work approved by the permit consists of any pavement or surface disturbance, the permit may also be subject to a restoration fee. Other fees shall be added to the cost of the permit as appropriate, in accordance with the fee schedule. Pursuant to Section 11-2-90, City of Cherry Hills Village Code, the applicable permit fees shall be described as follows: (See Separate Fee Schedule for Permit Costs)

Management Fee- includes all application processing related to the permit, and the end of warranty inspection performed one month prior to the end of the 2 year warranty period. This fee is based on current year labor rates.

Inspection Fee- is based on a maximum of 3 site inspections during the permit period. During the permitting process, the City will determine whether any additional inspections will be required.

Pavement Restoration Fee- The pavement restoration fee shall include all construction costs associated with the restoration of the pavement to minimize the impact to the useful service life of the roadway. The fee shall be applied to all Major Installations. Major installations include work in the public right-of-way involving an excavation exceeding 50 feet of total disturbance. This cost will include the cost to mill and overlay the disturbed area and if applicable re-chipseal the surface. Cost will be based on current City paving/chipseal contracts plus 5%. The City will collect this fee with the initial application. If permittee disturbs more pavement than originally included in the permit, the City will collect any additional funds due prior to final approval and closeout. Permittee will remain responsible for all patching and repair work for the warranty period.

Work in gravel streets: All work performed within a right-of-way with a gravel surface will be charged a restoration fee. The fee will consist of charges for City staff to restore the street to its original condition before the work was performed.

** For minor installations the cost is calculated @ 50% and is to account for the City performing the restoration during regularly scheduled gravel road maintenance operations. The fee is to cover the extra time and materials to restore the work area. Depending on the size of the work area, this fee may increase as determined by the City. Major installations will be charged at actual cost plus 5% or performed by the permittee with prior approval from the City.

Other Fees - Other fees shall include additional costs directly incurred by the City in providing services related to the granting and administration of a permit such as, but not limited to engineering review costs, additional oversight by City staff, materials testing, additional signage and or safety related barricades provided by the City. These costs will be based on the current year labor rate of the Director of Public Works or his designee's time as estimated by the City and all costs associated with services provided by the City's contract consultants. For major installations, material testing fees will be added to the permit. Costs will be based on the size/length of the project.

(Placement of construction trash containers or other materials or equipment typically associated with construction of residential properties is prohibited. The only occupancy that may be allowed is cranes for setting roof trusses, etc. This is to be determined by City Staff. If the operation is possible from private property no permit will be issued for right-of-way occupancy. Insurance and minimum bond requirements will apply to all occupation permits).

Bond and Certificate of Liability - All right-of-way permits will require a minimum $5,000 bond effective for **two (2)** years covering the entire warranty period. Major installations may require a higher bond amount and will be determined by City staff. All bonds for work on trails will be a minimum of $10,000.00. If any bond is prematurely canceled before the two year expiration date the permittee will be prohibited from working in the City until the bond is reinstated. A separate site specific bond is required for each individual job. All right-of-way permits will require a Certificate of Liability Insurance listing the "*City of Cherry Hills Village, its officers, officials, employees and volunteers as Additional Insured.*"

Failure to Obtain a Valid Permit - As outlined in the Cherry Hills Village Municipal Code – Section 11-2-290 (2). For commencing work without a valid permit: the fee is five hundred dollars ($500.00), plus twice the applicable permit fee.

III. Landscape Permits*

No private improvements are allowed within the City's rights-of-way without the approval of the City through a revocable encroachment license, with the exception of placing and maintaining limited landscaping, such as sod or grasses, flowers, and no more than four (4) bushes or small trees of a caliper not to exceed two (2) inches that will not interfere with the public's use of the right-of-way. In no case shall trees or bushes be placed in drainage ditch

areas. All newly planted trees must be at least 10 feet from the actual road surface. Allowing the placement and maintenance of such limited landscaping in the right-of-way shall not be construed to abridge, limit or restrict the City in exercising its right to make full use of the City right-of-way encroached upon as public thoroughfares or public places, nor shall it operate to restrict utility companies or any other licensees in exercising their rights to construct, remove, operate and maintain their installations within the City's right-of-way. Any landscaping that exceeds the installation guidelines above shall be required to be permitted by the City prior to installation. No landscaping may be placed that disrupts or blocks any drainage facility within the public right-of-way or any drainage easement. The City retains the right to trim or require the property owner to trim all landscaping as deemed necessary for public health, safety and welfare.

*If any construction equipment will be on a City street the full right-of-way fee will apply. The City may, in its sole discretion deny equipment on the street if it is determined that the work can be reasonably performed from private property. At no time can <u>any</u> construction or landscape materials be stored on a City street or in the City's rights-of-way. No zero-turn/tracked equipment is allowed on paved/chip sealed City streets at any time without proper protection of the road surface.

IV. Location of Facilities

A. General

1). The location of all facilities within the public right-of-way shall comply with the details and specifications shown on the construction plans approved by the City.

2). It is City policy to discourage the placement of utility lines and other facilities within landscaped median areas unless there is no other reasonable location for the placement of such lines and facilities. Perpendicular crossings of the median for utility purposes are allowed subject to the provisions of these standards and specifications. No applicant shall receive a permit for work in a landscaped median within the public right-of-way unless the applicant provides the City with evidence that, prior to commencing construction it has provided notice to the metropolitan, special district, homeowners association or adjacent property owner, which owns or maintains the median or roadside right-of-way landscaping material.

3). The utility alignment shall not vary greater than eighteen inches (18") from the approved design alignment without prior City approval.

4). If the designed alignment conflicts with other facilities not shown on the approved plans, the permittee shall submit an alignment modification request and the change shall be approved by the City prior to proceeding.

5). All underground facilities must be constructed with the means to be locatable. This may require installation of a tracking wire.

6). Depth of bury for gas and electric are as follows and subject to change: Gas service line – 18"; Gas main line – 24"; Electric 0 to 600 volts – 24"; Street light circuits less than 150 V phase to ground – 18"; Electric 601 to 50,000 volts – 30"; all depths are measured from bottom of pavement structure including base course and flow line of ditch as determined by the City. These depths may be increased if required by the applicable utility provider.

7). Within the proposed utility boundary area (which extends eighteen inches (18") on either side of the proposed facility), the proposed facility shall be placed at the lowest elevation in relation to other existing facilities within the boundary area such that a minimum eighteen inches (18") vertical clearance is provided. This separation may be less if agreed to by both facility owners. The separation distance shall be increased to five feet (5') in relation to wet utilities such as water and sewer.

8). All cuts made in City rights-of-way greater than 50 feet in total disturbance are considered major installations and will be subject to additional fees including, reviews and approval by the City Engineer, extra inspection, repair and oversight costs.

9). All street cuts, regardless of disturbance made in pavement (this includes chipseal), will be subject to complete surface replacement as determined by the City. Major installations will require the resurfacing of the entire lane(s) disturbed during construction. The City will determine the extent of the resurfacing as part of the permit process. The City will require full payment for the restoration and reserves the right to delay the work until the newly disturbed work area has settled out. The City will add these costs to the initial cost of the permit.

D. <u>Above-ground structures</u>

1). A detailed plan shall be required for all above-ground structures placed in the public right-of-way. The plan shall show dimensions of the cabinet, base, and proposed location.

2). A permittee shall use its best efforts to locate all above-ground structures outside the public right-of-way within a private easement on the property being served. Above ground structures may not be placed on trail easements in any manner that may restrict use of the trail for recreation or maintenance as determined by the City.

3). All new above-ground structures shall be screened from the view of adjacent properties with existing landscaping or approved landscape plan to provide screening as directed by the City. If the adjacent property owner is not willing to maintain the landscaping, no screening will be required.

4). All facilities shall be placed underground when the technology exists and where practical.

5). The location of above-ground structures shall not interfere with sight distance requirements for intersecting streets and access drives as determined by the City.

6). Above-ground structures shall be located to minimize the aesthetic impact on the landscaping within the public right-of-way.

E. Underground access structures (vaults and hand-holes)

1). Underground access structures shall be placed in line with the utility alignment when practical. Horizontal adjustments to accommodate underground access structures are discouraged and shall only be permitted when conditions warrant at the City's sole discretion. The placement of each access structure shall require field approval prior to placement.

2). The location of access structures, when placed within the City's right of way, must be approved by the City before installation.

3). The maximum size of an access structure and access lid shall be the minimum necessary for the facilities being installed, as determined by the City.

4). Access lids when placed in landscaped areas, shall be integrated into the landscaping while allowing for direct access for operations and maintenance while meeting applicable safety requirements.

5). Access lids placed in sidewalks shall be flush with the existing surface.

6). All access lids within travel lanes shall be placed outside of the wheel track as defined by the City.

7). Access lids shall be placed at an elevation of +0 inch to -1/4 inch relative to the surrounding pavement surface.

V. Construction Standards

A. General

1). Testing, in compliance with the City's testing schedule, which is attached hereto as Exhibit "A", shall be performed by a pre-approved testing company or tester acceptable to the City and results shall be provided to the City Inspector within two (2) working days of completion of testing and prior to the next phase of construction. (For example, a sub grade test is required prior to asphalt placement).

2). Any damage not documented during the pre-construction inspection shall be repaired by the permittee at the permittee's sole expense.

3). Utility markings shall be limited to the boundaries of the construction area and shall be removed by a method approved by the City within fifteen (15) days of the completion of work, pursuant to Chapter 11, Article II of the City of Cherry Hills Village Code.

4). Permittee shall advise the City at least 48 hours in advance of the date work will be started and shall notify the City at least twenty-four (24) hours in advance if this date is changed or cancelled. Inspections required on the permit shall be scheduled by permittee at least twenty-four (24) hours in advance.

5). Each permittee shall maintain the work site so that: a) Trash and construction materials are contained and not blown off the work site. b) Trash is removed from a work site often enough so that it does not become a health, fire, or safety hazard. c) Trash dumpsters and storage or construction trailers are not to be placed in the street without specific approval of the Director. All stormwater quality BMPs are maintained while work progresses and until all vegetation that has been disturbed has been reestablished to the satisfaction of the City. All applicable stormwater regulations must be followed even if no stormwater permit is required.

6). Each permittee shall utilize its best efforts to eliminate the tracking of mud or debris upon any street or sidewalk. Streets and sidewalks shall be cleaned of mud and debris at the end of each day or as otherwise directed by the City. All equipment and trucks tracking mud and debris into a public right-of-way shall be cleaned of mud and debris at the end of each day or as otherwise directed by the City.

7). Backhoe equipment outriggers shall be fitted with rubber pads whenever outriggers are placed on any paved surface. Tracked vehicles that may damage pavement surfaces shall not be permitted on paved surfaces unless specific precautions are taken to protect the surface. The permittee shall be responsible for any damage caused to the pavement/chipseal by the operation of such equipment and shall repair such surfaces at its own expense. Should the permittee fail to make such repairs to the satisfaction of the City, the City may use the permittee's performance bond or letter of credit to repair any damage.

8). As the work progresses, all public rights-of-way and other property shall be thoroughly cleaned of all rubbish, excess dirt, rock, and other debris, at the sole expense of the permittee.

9). No permittee shall disturb any surface monuments, property marks or survey hubs and points found on the line of work unless approval is obtained from the City. Any monument, hub, or point which is disturbed by the permittee shall be replaced by a Colorado Registered Land Surveyor at the permittee's sole expense.

10). There shall be no parking on sidewalks, paved and gravel trails, or in any park, or recreation site within the City. In the event work must occur in these areas, a parking and detour plan must be submitted to the City for approval.

11). A permittee shall provide necessary sanitary facilities for workers, the location of which shall be approved by the City in the permit. For linear projects a mobile unit may be required.

12). No construction materials including spoils may be stored on any City street, road, or right-of-way at any time. Contractors must load all spoils into trucks and remove them from the site.

13). For all minor installation permits, less than 50 feet in length or width, flowable fill must be placed in the entire trench or pit. For all major installation permits, Class 1 Virgin structural fill or flowable fill must be utilized. No native soils may be utilized for backfill.

14). No loading and unloading of materials with construction equipment is permitted on any City street. All material loading and unloading must be done from driveways or private property. Equipment making sharp or abrupt turns, especially zero turn vehicles such as skid loaders and tracked vehicles cause excessive damage to road surfaces. Delivery trucks must be positioned in such a manner to keep all equipment on driveways and/or private property.

15). No new permanent or temporary access points may be utilized or constructed without first securing a right-of-way permit. In areas with curbs the applicant must protect the curb from damage and ensure proper stormwater protections are installed in a manner approved in the right-of-way permit. In areas with open ditches, temporary piping will be required, and specifications are to be included with the permit application.

16). All work within City rights-of-way must adhere to all applicable stormwater standards even when disturbance is less than one acre. It is the applicants responsibility to ensure compliance with all local, state and federal regulations and install and maintain all necessary stormwater BMP's. The City may, in its sole discretion, require the permittee to install additional protection. A separate stormwater permit may be required in addition to the right-of-way permit.

B. Pavement Removal

1). All asphalt pavement cuts shall be in straight lines. Irregular shaped cuts with more than four (4) sides or cuts within existing patches shall not be allowed. All cuts shall be rectangular in shape, and edges shall be parallel or perpendicular to the flow of traffic.

2). In order to provide straight edges, all asphalt pavement cuts shall be cut by saw cutting, roto-milling, or an approved method, which assures a straight edge for the required depth of the cut.

3). Asphalt pavement cuts shall be such that no longitudinal joint lies within the wheel track as determined by the City.

4). No pavement cuts will be allowed within eighteen-inches (18") from the edge of pavement or concrete structures of any kind. With all planned excavations within this limit, the asphalt from the edge of the planned excavation to the edge of asphalt or concrete structure shall be removed and replaced in a manner determined by the City.

5). Concrete pavement shall be removed and replaced from existing panel joints only.

C. Excavation and Backfill

1). Excavation

a. All trench excavation shall be made by open cut to the depth required to construct the facility and provide adequate bracing of trench walls. All excavation, trenching, shoring, and stockpiling of excavated materials shall be in strict compliance with all applicable OSHA rules and regulations. The permittee shall furnish, place, and maintain all supports and shoring required for the sides of the excavation, as to prevent damage to the work, street or adjoining property. If the permittee is not expected to fully complete the work within any excavated area in a reasonable length of time as determined by the City, the City may require the permittee to backfill the excavation and re-excavate when the work can be completed expeditiously.

b. The length of an open trench shall be limited to the amount of pipe, wire etc. that can be placed and backfilled in a single day. However, in no case shall the length of the open trench exceed three hundred feet (300') unless otherwise approved by the City. No open trench shall be left unprotected overnight.

c. A maximum of two excavations shall be open at any one time for access structure installation and conduit splicing, unless otherwise approved by the City.

d. When stock piles are permitted by the City, the permit will require a stormwater management plan that will be implemented during the project to prevent sediment from entering the stormwater flows in that area. Material or equipment shall not be placed within the right-of-way without the prior written approval of the City.

e. All open excavations shall be properly barricaded to protect vehicles and pedestrians. All permits will require a traffic control plan for review and approval by the City. At any time it is determined that additional traffic control is needed, the permittee will stop work, and not begin work until the requested traffic control has been provided.

f. No undercutting of trench walls will be allowed. If under cutting is observed the permittee will be required to enlarge the trench and use flowable fill to ensure proper compaction is achieved. This may result in higher permit fees being applied.

2). Backfilling

a. Controlled Low Strength Material (CLSM) Flow Fill

i. All excavations under 50 feet in length or width, within the roadway pavement, shall be backfilled with controlled low strength material (flowable fill) unless otherwise approved by the City.

ii. Controlled low strength material shall consist of a controlled low strength, self-leveling material composed of various combinations of cement, fly ash, aggregate, water, and chemical admixtures. It shall have a design compressive strength between 50 to 150 psi at 28 days when tested in accordance with ASTM 4832. The mix shall result in a product having a slump in the range of seven inches (7") to ten inches (10") at the time of placement. The permittee shall submit a mix design for approval by the City. Flash Fill will not be permitted.

iii. The maximum layer thickness for CLSM shall be three feet (3'). Additional layers shall not be placed until the backfill has lost sufficient moisture to be walked on without indenting more than two inches (2").

b. Pipe Bedding
All pipe, conduit, and utilities shall be placed in preapproved bedding material consisting of squeegee, or similar material to minimize settling and future damage to the infrastructure and road surface.

c. Native Soils
No native soils are allowed for all installations. Minor installations will require CSLM and major projects will require class 1 virgin road base properly compacted in 6" loose lifts. Material certification and compaction testing will be required. Materials must meet all current CDOT standards.

d. Testing
The Permittee shall provide compaction testing for all backfill work per the Minimum Testing Requirements table attached in Exhibit "A". Each lift not tested in accordance with the testing frequency may be rejected by the City.

*Excavation and backfill shall be accomplished on the same day in order to minimize impact to the public right-of-way. In instances where the City determines that this cannot be accomplished, the Permittee shall submit a plan for City approval showing how traffic will be handled around the work zone.

3). Bridging Plates

a. Substantial bridging plates, properly anchored and capable of carrying the legal limit loading, in addition to adequate trench bracing, shall be used to bridge across trenches at street crossings where trench backfill and temporary patches have not been completed during regular working hours. Safe and convenient passage for pedestrians and access to all properties shall be provided.

b. The bridging plate shall be secured to the pavement with anchored pins so that it does not slip. The bridging plate shall extend over supporting pavement by a minimum of one foot (1') on all sides. Cold mixed asphalt shall be ramped a minimum of two feet (2') in the travel direction.

c. The use of bridging plates shall not be allowed from October through April. Use of bridging plates shall only be allowed with prior written approval from the City.

d. The permittee's design engineer shall certify in writing the suitability of the plates for the specific use by the Permittee.

D. <u>Boring</u>

1). To minimize the impact to traffic and the right-of-way infrastructure, the City encourages boring rather than open trenching. (In unique cases the City may require open trenches.)

2). If the Permittee's boring results in disturbance to other utilities in the public right-of-way, whether or not described on the approved plan, the City shall issue a stop work order directing the permittee to immediately repair such damage. Prior to the re-commencement of work, the permittee shall provide the City with written verification of the cause of the disturbance and method to ensure the situation will not occur again.

3). Waste material from boring shall be contained within the work site and shall not be allowed to discharge onto private property, the curb and gutter, any stormwater system or the roadway. All waste material must be removed from the site each day.

E. Repairing Streets

1). Asphalt Pavements

a. The minimum patch dimensions shall be five feet by five feet (5'X5') or 25 square feet unless approved by the City.

b. Prior to placing the permanent patch, the existing pavement shall be saw cut to a neat straight-line, square to the travel lane. The longitudinal edges of the patch shall not fall within the existing wheel tracks as defined by the City.

c. A tack coat shall be applied to all edges of the existing pavement prior to placing the patch.

d. Asphalt mix shall be CDOT, SX mix (1/2 inch) for all streets unless otherwise required by the City. Patch back areas greater than one hundred twenty square feet (120 SF) shall require the submittal and approval of a mix design to the City prior to placement.

e. Compaction shall be between 92 and 96 percent of AASHTO T 209. Average compaction of less than 92 percent of AASHTO T 209 shall be cause for rejection.

f. Compaction equipment shall be capable of compacting corners and edges of patch.

g. Hot bituminous patches shall be placed in maximum three inch (3") compacted lifts to a depth of the existing pavement plus two inches (2").

h. Patches shall also have a cross slope section consistent with the design of the existing roadway.

i. A cold mix asphaltic material may only be used as a temporary patch and the cold mix material shall be approved by the City.

j. Whenever permanent patches are not constructed within the same day following trench backfilling operations, temporary pavement patches consisting of a minimum of three inches (3") of hot or cold plant mix or steel plates must be utilized to provide the required number of paved travel lanes. Plates may be left for a short duration approved by the City. The use of bridging plates shall not be allowed from October through April. Use of bridging plates shall only be allowed with the prior written approval of the City. Temporary pavement patches may be left in place for a maximum of five (5) working days following completion of backfilling operations unless otherwise approved by the City.

k. Permittee shall monitor temporary patches on a daily basis and temporary patches exhibiting ruts, humps, or depressions shall be repaired or replaced immediately.

l. A permanent hot patch of material meeting the City's standards shall be made within five (5) days after the area is open to traffic, weather permitting. The City will work with the permittee when this timeframe cannot be met due to weather conditions.

m. If final patching is not completed within the specified time, non-emergency permits shall not be granted to the Permittee under any circumstances until all outstanding work is completed.

n. Upon completion of the permanent patch, the surface shall be thoroughly compacted, smooth, and free from ruts, humps, depressions, or irregularities. When a straight-edge, ten feet (10'), long is laid across the permanent patch parallel to the centerline of the street and in a direction transverse to the centerline, the surface shall not vary more than 3/16 inch (3/16") from the lower edge of the straight-edge. Patches exhibiting deviations greater than 3/16 inch (3/16") shall be replaced prior to acceptance of the patch. If the existing street exceeds the above tolerances, then the patch shall be equal or better than the condition of the surrounding pavement.

o. Major installations will require the resurfacing of the entire lane(s) disturbed during construction. The City will determine the extent of the resurfacing as part of the permit process. The City will require full payment for the restoration and at its discretion delay the repaving until the newly disturbed work area has "settled" out (typically 1 or 2 years). The City, at its discretion, may have its paving contractor perform this work at the current contract price negotiated by the City. The City will add these costs to the initial cost of the permit.

p. All major installations that are installed in roadways with chip seal that are three years old and newer will be required to reimburse these costs to the City in addition to the asphalt paving costs. This cost will be calculated on the current

year's chip seals contract prices with the City and added to the initial cost of the permit.

q. Any excavation or disturbance of pavement that comes within 18 inches of the edge of a paved surface at any point within the project area must be completely removed and replaced as determined by the City.

r. All patches in asphalt regardless of size will be infrared heat patched after completion; Patches in chipseal will not be required to be infrared.

F. Restoration of Locate Potholes

1). Locate potholes shall not be located within the wheel tracks of a travel lane as defined by the City. Failure to comply with this provision shall result in the assessment of a restoration fee to cover asphalt resurfacing or the contractor meeting the required restorations.

2). All locate potholes in the pavement section shall be cored with a circular coring saw with a maximum diameter of ten inches (10"). The plug shall be carefully removed without causing damage.

3). Excavations for potholes shall be backfilled with squeegee or controlled low strength material (flowable fill) only. Native material removed shall not be used to backfill the hole.

4). The pavement shall be patched with hot mix asphalt of similar aggregate size at a thickness equal to the thickness of surrounding asphalt plus 1-inch and compacted in maximum three inch (3 ") lifts with a "pogo stick" compactor capable of fitting into the core hole such that the surface is flush with the surrounding pavement. Localized treatment shall be required to blend the top mat of the asphalt together by infrared heating.

5). Where possible locate potholes shall be located under existing pavement marking and such marking shall be replaced at the completion of the repair to camouflage the pavement disturbance.

6). The City may allow changes to these restoration requirements if the contractor can provide evidence that an alternative restoration method meets the City's requirements.

7.) All locate potholes in concrete surfaces will require the replacement of full panel sections from existing contraction joints. Partial section replacement shall not be permitted.

G. Concrete Flatwork

1). Concrete material and placement shall be CDOT Class B, with 4000 psi compressive strength.

2). Weather protection shall be provided in compliance with CDOT Standard Specifications Section 601.

3). Permittee shall schedule a form inspection and obtain approval prior to pouring.

4). Damaged concrete pavement shall be removed and replaced as a full panel section with dowels set into adjacent panels in compliance with CDOT M&S Standards.

5). Damaged flatwork and curb and gutter shall be replaced in full sections from existing contraction joints. Partial section replacement shall not be permitted.

6). Concrete removed adjacent to asphalt pavements shall require the removal of 12-inches of asphalt to place the forms on the street side of the work area. On the landscaped side of the work area, forms used will have a 1-inch maximum width to protect the landscaping and irrigation systems. At sidewalks and driveways, the private improvements will be used as the form with the placement of an approved expansion joint material to separate the new concrete from existing improvement.

7). Sub-grade elevation shall be brought up to +/- 0.1 foot of final grade per plans, with approved materials prior to placing forms.

8). No water shall be placed on concrete surface to assist finishing.

9). Variations of concrete surface shall not exceed 1/8 inch (1/8") in ten feet (10').

10). Liquid membrane curing compound shall be placed in compliance with CDOT Standard Specifications Section 412 at a rate to completely coat all exposed concrete surfaces.

H. Gravel Roads

1). Prior to any major projects (as defined in these Standards) on gravel roads, the permittee must survey and record the existing road, ditch and right-of-way area within the project boundaries and provide the documentation to the City prior to starting any work. Photo documentation is also required. All disturbed areas will be returned to their pre-existing conditions including, but not limited to road and ditch width, depth and alignment within the right-of-way. Private landscaping must also be restored.

2). All gravel roads will be repaired and rebuilt with a mix of 50% virgin class 6 aggregate road base and 50% recycled asphalt class 6 road base. The City, in its sole discretion, may change the mixture to higher or lower percentages of either of these two materials based on localized needs and conditions. Under no circumstances is recycled concrete allowed in the gravel road surface area, or final 12" lift.

3). When there is disturbance greater than 50 linear feet or greater than 625 square feet the restoration of the road surface will be performed with a paving type lay down machine, new road surface material will be placed at a 4" minimum depth throughout the entire project area.

4). Magnesium Chloride and an approved surfactant will be applied at a rate determined by the City at the time of installation. The amount needed will vary depending on weather conditions and the amount of moisture present in the road surface material.

I. Landscape Areas (including stormwater ditches and unimproved right-of-way-areas)

1) Excessive, unnecessary disturbance to landscaping and other existing improvements shall result in a stop work order until repairs are made to the satisfaction of the City.

2) Landscape restoration shall be completed within two (2) weeks of completion of work at each site. The City will work with the permittee during seasonal periods where landscape restoration cannot be reasonably performed within this timeframe.

3) Irrigation shall be maintained throughout construction to ensure no landscaping is affected during the construction phase.

4) Permittee shall work with the adjacent property owners to coordinate any construction activity that disrupts such adjacent owner's landscaping.

5) Prior to probationary acceptance by the City, all Permittees shall provide a letter from each property owner adjacent to the work site stating that all landscaping has been adequately restored. It is the Permittee's responsibility to document pre-existing conditions to ensure proper restoration.

6) Any additional landscaping required for screening above-ground structures shall be coordinated with and approved by the adjacent property owner responsible for landscape maintenance.

7) All disturbed areas must be amended with the proper City of Cherry Hills Village approved top soil, prior to reseeding and restoration. See Exhibit B.

J. Traffic Control

1) When it is necessary to obstruct roadways or pedestrian ways, the Permittee shall submit traffic control plans, in compliance with the Manual of Uniform Traffic Control Devices (MUTCD), showing all work. The traffic control plans shall include:

   i. Each lane closure scenario, including work zones for locate pothole work.

   ii. Lane configurations and access locations specific to the actual work zone.

   iii. Any upstream intersections within five hundred feet (500') of the work zone, showing all impacted inbound lanes to the intersection.

   iv. Pedestrian route detours showing the nearest crossing intersections at each end of the work area.

   v. Proposed hours of operation of each traffic control setup.

2) All traffic control plans shall be prepared under the supervision of a certified Work Site Traffic Control Supervisor. Documentation of certification shall be submitted with the traffic control plans.

3) Lane closures are permitted only between 8:30 a.m. and 3:00 p.m. on weekdays. No work is allowed on weekends or holidays unless otherwise noted on the permit. Emergency repairs are allowed and are covered under section 11-2-250 of the City code.

4) When planning construction phasing and developing traffic control plans, the Permittee shall make every effort to minimize the impact to the motoring public and maintain the capacity of the roadway system. The City may require that the traffic control plan(s) be modified to comply with this requirement.

5) When the traffic control plan requires the modification of any traffic signals timing plans, the Permittee shall be responsible to notify the appropriate authority to coordinate the re-timing of the signal. All costs associated with work shall be borne by the Permittee.

6) All signs and devices shall conform to the Manual on Uniform Traffic Control Devices. The devices and signs shall be clean, legible, properly mounted and meet a quality standard rating of "acceptable" per the requirements of American Traffic Safety Services Association (ATSSA) Quality Standard for Work Zone Traffic Control Devices. All signs and devices used for night operation shall meet the retro reflective requirements of CDOT Standard Specifications Section 713.04.

7) The City may require that a Permittee place Variable Message Boards or custom job specific signs in advance of the work to notify the travelling public of the upcoming construction impacts. All costs for this work shall be borne by the Permittee.

8) If the closure of a street is required for the completion of the work, the Permittee shall provide all notifications to emergency agencies, government entities, school and transportation districts, newspapers, and adjacent businesses and homeowner's associations in a format approved by the City.

9) No Permittee shall block access to private property, fire hydrants, fire station, utility structure, or any other emergency response equipment unless the Permittee provides constructive notice to all parties, which provides for and supports informed consent methodology for citizen participation. Such notice would detail the project activities, dates, contacts, access provisions and restrictions with allowances for property owners to request other alternatives as applicable.

10) When necessary for public safety and when required by the City, the permittee shall employ qualified flag persons whose duties shall be to control traffic around or through the work site.

11) The Permittee shall be responsible for maintaining all work area signing and barricading required throughout the duration of work. During non-work hours; all signs that are not appropriate shall be removed, covered, or turned around so that they do not face traffic.

12) Any deficiencies noted by the City shall be corrected immediately by the Permittee. If the Permittee is not available or cannot be found, the City may make the required corrections and charge the cost thereof to the permittee pursuant to Section 12-2-260 of the Cherry Hills Village Code.

13) The phasing of construction and length of the active work zone shall be submitted by the Permittee to the City for review and approval. Permittees shall make every effort to minimize the impact to the use of the public right-of-way and adjacent properties. The City may require that the Permittee modify the proposed construction phasing in order to minimize the impact during construction.

14) Permittee shall be responsible for all damage to sidewalks unless such damage was pre-existing and documented with a pre-construction inspection. Pedestrian access shall be maintained throughout the period of work.

15) All traffic control devices shall be removed within 24 hours of the completion of the project. The City will remove all traffic control signs not removed in this time period. The City will not be responsible for storing or returning any traffic control devices removed by its employees or agents.

VI. Restricted Rights-of-Way

A) To reduce the impact of work within the public right-of-way in and around certain heavily traveled collector streets within the City, work will only be allowed between the hours of 9:00 AM to 3:00 PM, Monday through Friday. No work will be allowed on weekends or holidays or at any other time as directed by the City. See Exhibit B, Transportation System Map for location of restricted rights-of-way.

B) Emergency repairs are allowed on any street and at any time to restore utility services to the community. Contractor must provide a traffic control plan that works to minimize disruptions to traffic. Utility providers and/or their contractors are still required to obtain a permit for all emergency work. The application must be applied for immediately (next business day) after the incident or a double permit fee and penalty will apply.

VII. CDOT Rights-of-Way

Work in all Colorado Department of Transportation (CDOT) rights-of-way will be required to obtain a permit from the CDOT. Any work or occupation behind the curb or on the sidewalks will also require a City of Cherry Hills Village permit. These rights-of-way include University Blvd., Hampden Ave., and Belleview Ave. Please visit the CDOT website @ http://www.coloradodot.info/ or call 303-365-7306.

Construction and Excavation Standards and for Work in Public Rights-of-Way 2013

EXHIBIT A

City of Cherry Hills Village Public Works Department Minimum Testing Requirements

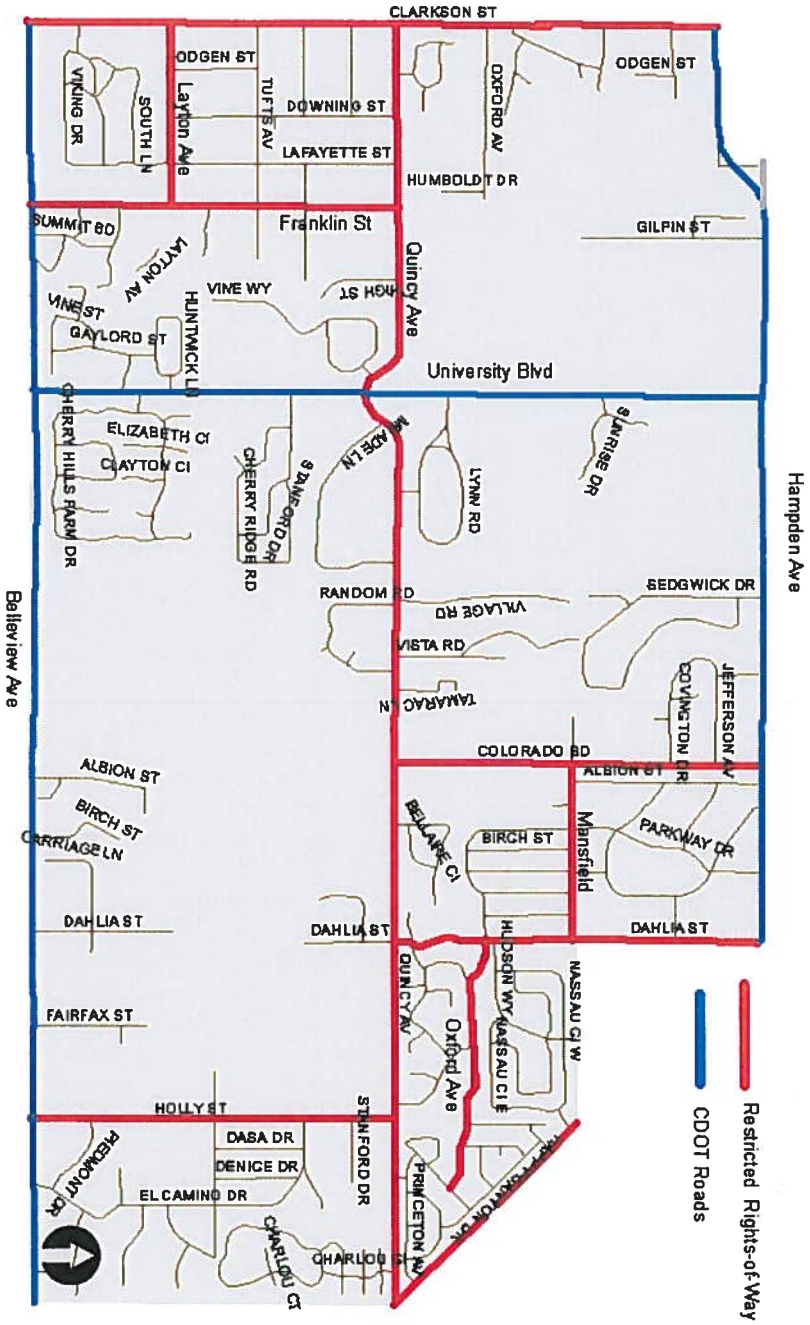
Public Works Department, 2450 E. Quincy Ave., Cherry Hills Village, CO 80113, Phone: 303-783-2731
Fax: 303-761-9386

ALL TESTING TO BE PERFORMED PER CURRENT CDOT STANDARDS

ITEM	TYPE OF TEST	MINIMUM FREQUENCY
All excavation backfill - gas, elec., water, storm & san. sewer, cable TV, phone, etc.	Moisture/Density (Compaction Test)	1 per 200 lineal ft., per vertical foot of fill, and within 2 ft. of all structures; minimum 2 tests per lift not including tests around structures. 95% compaction under roadways and 85% to 90% under landscape areas.
Roadways		
Sub grade testing	Moisture/Density (Compaction) Proof-roll	1 per 200 lane feet, min. 2 tests per lift all sub grade
Base course Testing	Moisture/Density (Compaction) Gradation/Atterberg limits Proof-roll	1per 200 lane feet, min. 2 tests per lift 1 per 500 tons All base course
Concrete Testing – Full Time	Air and Slump Slump	1st 3 loads, if pass, 1 per 100yds3 every load
Asphalt Testing – Full time	Density Extraction/Gradation, Marshall	1per 200 lane feet, min. 2 tests per lift 1 per 500 tons
Sidewalk, Curb & Gutter		
Soil testing	Moisture/Density (Compaction) Proof-roll	1 per 200 lineal ft., per 2 'ver:tical feet of fill Min. 2 tests per lift All sub grade All sub grade
Concrete Testing	Air and Slump	1 per day min. – Machine placed 2 per day min. – hand placed plus 1 per 500 square yards
Inlets/structures		
All inlet/structures must be pre-cast structures set in place meeting all specifications established by the City	No tests required unless hand placed structures approved by City, and testing will be determined by the City before work will begin.	To be established by the City.

EXHIBIT B

SOIL AMENDMENT FOR DISTURBED LANDSCAPE AREAS

Parameter	As Received Basis	Dry Matter Basis
Solids - total (%)	75.27	100.00
Moisture (%)	24.73	0.00
Organic Matter (%)	14.94	19.85
Ash Content (%)	60.33	80.15
Total Salts (MMHOS/CM @ 25_c 1:5)	2.84	-----
pH (Units)	8.6	-----
Nitrogen - Total (%)	0.482	0.640
Nitrogen - Organic (%)	0.432	0.574
Nitrogen - Ammonia (PPM)	361.3	480.4
Nitrogen - Nitrate (PPM)	132.8	176.4
Total Phosphorus (%) as P (%) as P_2O_5	 0.230 0.528	 0.305 0.702
Total Potassium (%) as K (%) as K_2O	 0.483 0.580	 0.642 0.770
Carbon / Nitrogen Ratio	12.3	16.3

Construction and Excavation Standards and for Work in Public Rights-of-Way
2013